Name: _____ J#: _____

Jackson State University
CSC 323 Algorithm Design and Analysis, Fall 2016
Instructor: Dr. Natarajan Meghanathan
Quiz 6 (Take Home Quiz)
Maximum Points: 35 **Due on: October 25, 2016: 11.30 AM**

Print this quiz and answer in the space provided (you can answer on both the sides).

1) (10 points) Construct a hash table for the array assigned to you and determine the average number of comparisons for a successful search. Also, determine the maximum number of comparisons you would encounter for an unsuccessful search. Assume the hash function is H(K) = K mod 5.

Student # / Name	**Array**
Kirubel Benalfew	[39, 4, 31, 83, 26, 81, 54]
Yosef Getachew	[7, 60, 0, 61, 92, 28, 54]
Quavanti Hart	[21, 27, 61, 13, 57, 42, 80]
Deonta Kilpatrick	[58, 51, 25, 73, 56, 0, 68]
Kabinad Melaku	[63, 3, 81, 71, 50, 66, 91]
Shawndon Portis	[10, 30, 97, 66, 44, 92, 7]
Nicholas Whitfield	[55, 74, 48, 58, 68, 18, 34]
Ladarius Felix	[98, 4, 43, 22, 25, 6, 32]
Alishia Harmon	[65, 84, 25, 5, 10, 72, 75]
Algesa Haywood	[7, 17, 1, 60, 90, 68, 13]
Darius Leroy	[56, 61, 50, 60, 84, 10, 30]
Michael Moore	[12, 70, 79, 39, 81, 47, 17]
Karmeen Powell-Childress	[94, 67, 20, 29, 46, 27, 97]
Brian Williams	[74, 33, 17, 24, 96, 99, 39]

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2) (10 points) Given the following items, their weights and values, use the greedy algorithm discussed in class to compute the maximum value of the items that could be accumulated in a knapsack of weight 6 lb.

Show all the work.

Kirubel Benalfew

Item	Value($)	Weight (lb)
1	12	2
2	25	3
3	30	4
4	18	3
5	10	1

Yosef Getachew

Item	Value ($)	Weight (lb)
1	20	2
2	13	1
3	25	2
4	39	4
5	27	3

Quavanti Hart

Item	Value ($)	Weight (lb)
1	45	3
2	62	4
3	18	1
4	35	2
5	20	1

Deonta Kilpatrick

Item	Value($)	Weight (lb)
1	11	1
2	31	4
3	10	2
4	18	3
5	12	2

Kabinad Melaku

Item	Value ($)	Weight (lb)
1	41	3
2	28	2
3	46	4
4	24	2
5	13	1

Shawndon Portis

Item	Value ($)	Weight (lb)
1	19	1
2	80	4
3	25	2
4	45	3
5	15	1

Nicholas Whitfield

Item	Value($)	Weight (lb)
1	15	2
2	19	3
3	28	4
4	20	3
5	8	1

Ladarius Felix

Item	Value ($)	Weight (lb)
1	10	2
2	12	3
3	19	4
4	8	1
5	14	2

Alishia Harmon

Item	Value ($)	Weight (lb)
1	24	3
2	35	4
3	19	2
4	13	1
5	11	1

Algesa Haywood

Item	Value($)	Weight (lb)
1	10	1
2	19	2
3	25	2
4	40	4
5	32	3

Darius Leroy

Item	Value ($)	Weight (lb)
1	100	2
2	120	4
3	90	3
4	110	3
5	115	2

Michael Moore

Item	Value ($)	Weight (lb)
1	14	2
2	20	3
3	15	2
4	10	1
5	30	4

Karmeen Powell

Item	Value($)	Weight (lb)
1	23	2
2	33	3
3	40	4
4	21	2
5	11	1

Brian Williams

Item	Value ($)	Weight (lb)
1	17	2
2	24	3
3	33	4
4	11	1
5	30	3

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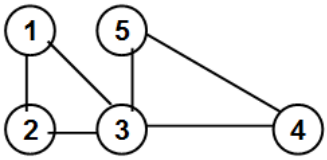
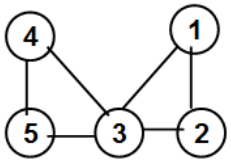
3) (15 points) For the graph assigned below, use the Transform and Conquer technique (Matrix Multiplication) and compute the number of walks between any two vertices of length 2 (including walks originating and ending at the same vertex). Also determine the number of walks of length 4 between vertices 1 and 5.

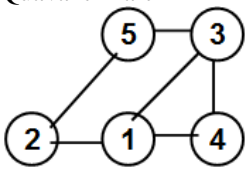
Kirubel Benalfew



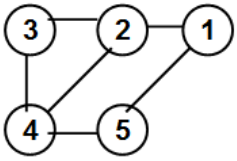
Yosef Getachew



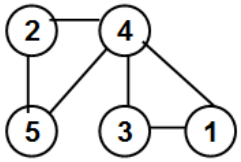
Quavanti Hart



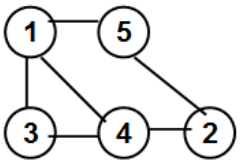
Deonta Kilpatrick



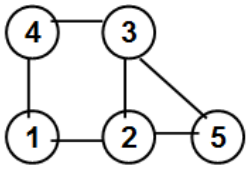
Kabinad Melaku



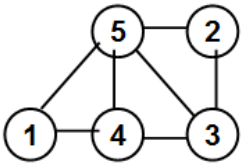
Shawndon Portis



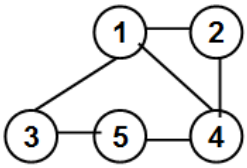
Nicholas Whitfield



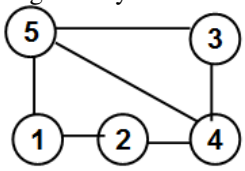
Ladarius Felix



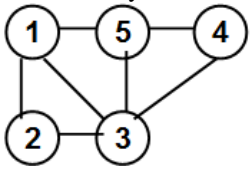
Alishia Harmon



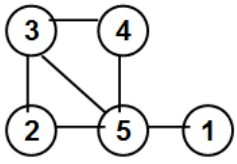
Algesa Haywood



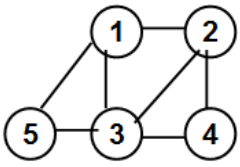
Darius Leroy



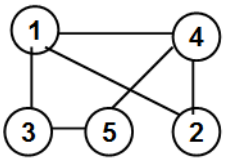
Michael Moore



Karmeen Powell



Brian Williams



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